Strategy Research Project

E PLURIBUS UNUM: STRENGTHENING THE AIR FORCE SPACE COMMAND CULTURE

BY

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STRENGTHENING THE AIR FORCE SPACE COMMAND CULTURE

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ABSTRACT

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E PLURIBUS UNUM:
STRENGTHENING THE AIR FORCE SPACE COMMAND CULTURE

> Tomorrow's space professionals need a broader understanding of operations across the range of space mission areas and the size of the space cadre will need to grow, as space becomes increasingly important to military operations
>
> —2001 Commission to Assess United States
> National Security Space Management and Organization

Tomorrow has arrived. Space mission areas contribute invaluable information and support essential to the way the United States prepares for and conducts military operations.[1] The US Air Force, however, is not fostering a culture within Air Force Space Command (AFSPC) that focuses space professionals on the importance of space superiority.

In 2001, the Commission to Assess United States National Security Space Management and Organization (hereafter referred to as the Space Commission) recommended the Department of Defense strengthen its space culture and develop the space cadre the nation requires.[2] The service has "a long way to go" developing a coherent culture, although it has identified the members of this cadre.[3] AFSPC implemented a process to track the experience levels of its members, but has not resolved the underlying differences among the disparate cultures. Organizational theory can guide AFSPC in its attempt to develop a common culture linking the three distinct "camps" from which it draws its members.[4]

The Space Commission recommended (as an initial step to strengthen the space culture that supported national security objectives) transferring the Space and Missile System Center (SMC) from its parent major command, Air Force Materiel Command

(AFMC) to AFSPC. AFSPC began to track and manage the related experiences of those designated as space cadre members as an initial step in the implementation of this recommendation. Air Force members that design, procure, and operate US space systems form the basis for this cadre. While it may seem natural and logical to place these functions under a single organization (AFSPC), the US Air Force must address the impact of this merger on each career field's culture in order to 1) assess its ability to gain and maintain space superiority and 2) determine whether it enhances the command's ability to gain and maintain space superiority.

Cultural rifts among its three distinct camps currently fragment the space cadre. Space Operations, Missile Operations, and Acquisitions all provide space-based products and services to the warfighter. Two of the three career fields, space and missiles, share an Air Force Specialty Code (AFSC) and have common initial qualification training (IQT). Three different career fields form the basis of the Acquisition arm of the space cadre (Scientists, Engineers, and Acquisition Managers), and they have their own AFSC, IQT, and management processes to fulfill broader Air Force acquisition requirements than those serving national security space objectives.[5]

Culture can, and does, mean many different things to different people. This paper, therefore, builds a foundation focused on common terms and definitions before it examines the cultures of the three camps that form the space cadre. Once that common ground is established, this paper examines the evolution of AFSPC's organizational culture and then details recommendations for managing the space career field to develop the type of cadre envisioned by the Space Commission. It examines AFSPC's organizational culture development with a discourse on the organizational development

of the three camps that currently provide members of the space cadre. The following section reviews the efforts made to unify the career fields in response to Air Force reorganizations that placed space, missile operations, and their associated acquisition functions under a single command. Lastly, it reviews the Space Professional Strategy written after the 2001 Space Commission Report and provides recommendations to improve AFSPC's ability to build a stronger culture that allows officers to obtain depth and breadth of experience and also improve crew force personnel management within the space cadre.

Culture Defined

Many theorists have studied organizations and their respective cultures. The ways to describe how an organization functions and "feels" are myriad. Stephan Gerras, Leonard Wong, and Charles Allen identified three models to describe and analyze military organizational cultures.[6] In their paper, the authors describe three distinct models useful in analyzing cultures and effectively demonstrate the ability to conduct their analysis in a "hybrid" model, combining elements of all three.[7] For the purposes of the analysis conducted in this paper, one of the theorists acknowledged in Gerrras' work, Edgar Schein, will be used.

Organizational theorist Edgar Schein identified three basic levels of culture that interact to form an organization's culture. These levels are simply described as artifacts, values, and basic assumptions.[8] One must be aware of these levels, and their interactions, to understand how organizations influence their members, specifically personnel development.

Schein identifies *artifacts* as "the most visible level of culture."[9] The environment in which an organization exists forms the need for certain artifacts. Military personnel wear uniforms that clearly identify their service affiliation. Soldiers in the Army wear digitized combat uniforms, while weapon system operators in the Air Force wear distinctive flight suits. Operational badges and insignia provide non-verbal descriptions of specific duty requirements or functional areas of responsibility. Medals similarly indicate the accomplishments of individuals and/or their units.

Although these items are very visible, accoutrements are not the only artifacts that form a military's culture. Ceremonies of all types (promotions, changes of command, and funerals) are artifacts that differentiate the military from other large organizations. Visible behavior patterns, such as technology and airplane worship, are also artifacts that lend insight to how a service thinks.[10] All artifacts have some effect on an organization's members, investigating the next level of culture, organizational values, helps in understanding how. Examining the relationship between artifacts and values also provides insight into how outsiders perceive the organization.

Values are not as clearly seen as artifacts, but they are vital to the way an organization operates and develops its members. Values, in the context of this thesis, reflect an organization's sense of what "ought to be" with respect to the reality of what "is."[11] Beliefs, or values, promulgate throughout an organization based on the words and actions of its leaders. The implementation of the Air Force's core values of Integrity First, Service Before Self, and Excellence In All We Do, provide an example. The Honorable Sheila E. Widnall, Secretary of the Air Force, and General Ronald R. Fogleman, Air Force Chief of Staff, approved these core values for the United States Air

Force in 1995.[12] They tasked Air Education and Training Command (AETC), along with the Air Force Academy, to spread these values throughout the Air Force. These plainly stated values serve as a benchmark for service members to gauge themselves. They also provide those wishing to join the Air Force a glimpse of the “price of admission.”

Values can build a coherent philosophy that provides a vision for the future and guides members dealing with uncertainty. Leaders can send messages to the members and potential members of an organization by expressing their visions and values. The AFSPC Commander, for example, wants to draw more individuals with technical degrees into the space career field.[13] As the leader of a large command within the Air Force, his vision of the command's future defines successful career paths for members of the command. Since his remarks can reach potential officer candidates currently studying in America's universities, and those considering a college education, the AFSPC Commander's vision can also influence the command's future membership. A gradual and arduous process of cultural change begins as values, such as the stated desire for a more technical expertise to signify a higher degree of competence, permeate throughout an organization. These cultural changes occur at levels much deeper than artifacts, at the level Schein identifies as "basic assumptions.”[14]

Basic Assumptions, in the context of organizational theory, occur when the aspects of daily operations are “taken for granted.”[15] The assumptions become so engrained in an organization that it is inconceivable to operate in any manner other than the established norms. When members share basic assumptions, they tend to arrive at common, "preferred" solutions to organizational problems. These solutions, furthermore, tend to align with the vision provided by the organization's leaders.

An example can describe the impact of a basic assumption better than an abstract discussion. The Air Force Core Values will ideally permeate throughout the organization and eventually cognitively transform the Airmen serving in it. Individuals acting contrary to these values, i.e. cheating on a professional military education exam, would draw harsh criticism as Air Force members attempt to align behavior with organizational values.

Values and assumptions will not permeate an organization without focused and effective leadership. Edgar Schein theorizes that for a cultural change to take root and grow throughout an organization, leaders must use *embedding and reinforcing mechanisms*. Initially, leaders will use embedding mechanisms as the way to introduce and/or socialize a new cultural aspect. Schein's six primary embedding mechanisms are:

- What leaders pay attention to, measure, and control on a regular basis
- How leaders react to critical incidents and organizational crises
- How leaders allocate resources
- Deliberate role modeling, teaching, and coaching
- How leaders allocate rewards and status
- How leaders recruit, select, promote, and excommunicate[16]

While the previous six mechanisms are used to embed a cultural change into an organization, the following six are used to reinforce the direction in which the organization is moving in the eyes and minds of its members. Schein's reinforcing mechanisms are:

- Organizational design and structure

- Organizational systems and procedures
- Rites and rituals of the organization
- Design of physical space, facades, and buildings
- Stories about important people
- Formal statements of organizational philosophy, creeds, and charters[17]

Together, in Schein's theory, these tools give leaders the ability to make meaningful and lasting change in an organization. An organization's management structure can reinforce the unconscious guidelines established by its basic assumptions or the two can work at cross-purposes. AFSPC must create, manage, and, if the need arises, destroy portions of the established culture to enact real change in the focus and mindset of its members. Space Command needs to do all three of these to mold and strengthen a coherent space culture to the degree envisioned by the 2001 Space Commission.

The Pieces of the Puzzle

As evidenced by the preceding section, cultures and their development are as complicated as organizations themselves. The leader's role in the development of organizational culture cannot be overstated. The only important thing leaders do, according to Edgar Schein, is create and manage culture.[18] This portion of the paper looks at the organizational changes during the development of AFSPC and evaluates some of the early re-organization decisions and their effect on cultural development. Organization and budgetary considerations largely shaped these decisions, and cultural implications, if considered at all, were afterthoughts. Considering cultural issues during

re-organizations are important to understanding not only what the new organizations will do, but also determining the priority issues for leaders.

As organizations develop and mature, so do the cultures resident within them. Edgar Schein indicates that organizational culture goes through a series of growth stages (Birth, Midlife, and Maturity) and these stages limit the degree of cultural change that can take place in an organization.[19] All of the organizations that were eventually brought together to form Space Command developed their own identity and began their own journey through Schein's growth stages (Table 1).

Growth Stage	Function of Culture	Change Mechanism
Birth and Early Growth	Source of Identity Hold organization together Integration Socialization and commitment to mission	Natural Evolution Managed Evolution Managed Revolution through Outsiders
Organizational Midlife	Spawns subcultures Crisis of identity Opportunity to manage change	Planned Change Incrementalism Challenging myths
Organizational Maturity	Constraint on innovation Source of self esteem	Coercive Persuasion Reorganization Organization Destruction Rebirth

Table 1: Organizational Growth Stages[20]

Peace as a Profession: The Birth of the Missile Culture

The Air Force forged the Missile Operations camp within the Strategic Air Command (SAC) in the context of the Cold War. The United States built a vast nuclear arsenal to deter aggression, most of it controlled by SAC. Nikita Khrushchev banged his

shoe on the United Nation's podium and screamed wildly at the American ambassador, "We will bury you!"[21] Meanwhile, SAC maintained over a thousand bombers to prevent the Soviets from trying. Tensions peaked in October 1963 when the Soviets placed nuclear missiles in Cuba and aimed them at the United States. Leaders of the two nations pushed "brinkmanship" to the limit and brought the world perilously close to nuclear holocaust.

Throughout this chaos, America's nuclear armada was on a hair trigger. SAC believed that its command and control technology precluded the possibility of an accidental release of nuclear weapons. Managing this command and control network and its assigned weapon systems demanded a "zero-mistake" culture. The men and women of SAC felt the weight of the world on their shoulders and held freedom and democracy in their hands. Lt General James Edmundson, 15th Air Force Commander, captured the sense of duty and responsibility that laid the foundation upon which the culture of SAC, and eventually the missileers formed. He said,

> These weapons were pretty doggone powerful, and could really do damage that-- We weren't even able to measure how much damage that they would do. And then we felt that the only way we could assure that it [nuclear war] didn't happen was to have the capability here in SAC to deter the Russians from doing that, and having the honor and the American ethics of not doing it yourself. So it was the use of these weapons and the becoming proficient with them and the planning to use them at their maximum capability, that really, we felt, was the one way to avoid an all-out nuclear war.[22]

General Edmundson's statement reveals the feeling at the time that the mission performed by the men and women of SAC was crucial to the nation's survival. As a leader, he provided the organization a sense of how they "ought to operate" and promulgated that value in an effort to focus his workforce on striving for perfection. The artifacts representing the command echoed the values espoused by SAC's leaders.

Throughout its existence, SAC's emblem and motto symbolized the institution's goals and ultimately fed its culture. The emblem was a sky-blue, shield-shaped image with an armored–clad fist grasping a green olive branch and three red lightning bolts. Official histories note that the blue background represented Air Force operations, while the armored arm symbolized strength, power, and loyalty.[23] The olive branch symbolized peace and the lightning flashes represented speed and power, all qualities of SAC's mission. The command's original motto, "War is our profession—Peace is our product," proved offensive to some, and the slogan changed to "Maintaining Peace is our Profession." The Air Force shortened the motto in 1958 to the pithier "Peace is our Profession."[24]

SAC proved a uniquely dedicated and motivated organization throughout its history. Its crews, staff, and pilots internalized the basic assumption that their work was necessary to maintain the peace and deter Soviet aggression worldwide. Under General Curtis LeMay's leadership, SAC's personnel developed a reputation for working harder, faster, and longer than previous bomber wings. Its crews set flight endurance records and maintained a constant airborne presence in case of a surprise Soviet attack. The same intense work ethic would permeate the forces assigned to the missile fields once they became operational in the early 1960s.

The experiences of these officers, from selection through their time in the silo, engrained in them a sense of duty and focus on a singular mission, deterrence. Leaders, like LeMay and Edmundson, used that mission focus to foster a culture valuing discipline and attention to detail. This value defined SAC and permeated the command as an intangible basic assumption that perfection was always required.

The Emergence of Space Power

The Space and Missile Systems Center (SMC) culture is rooted in the organization originally charged with developing intercontinental ballistic missile (ICBM) technology. The Air Force created the Western Development Division (WDD) in 1954 "solely for the prosecution of research, development, test, and production leading to a successful intercontinental ballistic missile."[25] The WDD opened its offices in 1954 in a former elementary school building under the command of General Bernard Schriever.[26] In an attempt to maintain a low profile for this top-secret project, military personnel stationed at the WDD wore civilian clothes.[27] There were no signs identifying the white schoolhouse as the WDD, its windows were frosted and heavily barred. All outside doors, except one, remained locked and the only entrance was across a chain-link fenced parking lot.[28]

The Western Development Division facilitated the rapid development of missile systems, and its employees worked long hours, much like the SAC bomber crews, to get the job done. A normal workweek for WDD members consisted of ten-hour days, six days a week, with extra time often worked on Sundays.[29] The main function of this working group was not to build an ICBM, but to work together with private contractors to design the new weapon as quickly and inexpensively as possible.[30] To many of these workers, the very safety and security of the United States seemed to hinge on the success of their program. To help meet its goals, WDD contracted with the Ramo-Wooldridge Corporation of Los Angeles, California to provide technical direction.[31]

The division's narrow mission focus, ICBM development for the safety of the United States, fostered a culture that valued technical expertise and mission

accomplishment. General Schriever used the secretive nature of the WDD and the importance of the mission to build a dedicated cadre of personnel willing to do to whatever it took to make things happen under the influence of the values he made clear in his research and development philosophy. General Schriever emphasized two areas to focus the WDD and its culture, a personal testing philosophy and, what he deemed, a dual approach.[32]

The testing philosophy required a great deal of missile system component reliability testing early in the development phase to ensure the reliability of components before proceeding to subsystem testing and eventually launch tests.[33] The dual approach General Schriever stressed called for more than one contractor working on the same missile subsystem (re-entry, guidance, airframe, and propulsion). Focused values and clear direction caused the WDD to create a back-up network for this system development process that provided insurance against failure and increased confidence in meeting schedules.

The Western Development Division's mission changed dramatically in October 1955 when it received responsibility for developing the first military satellite system. Two years later it was re-designated the Air Force Ballistic Missile Division (AFBMD) and the organization went through yet another mission change. The AFBMD would retain the responsibility for developing strategic missiles, but the Department of Defense (DOD) continued to modify, add, and remove space mission responsibilities.[34]

The complexity and urgency of the ballistic missile program, however, allowed the establishment of a unique development-management group that also influenced cultural development. As the Commander of AFBMD, General Schriever served as the

Assistant to the Commander of ARDC. This enabled his staff to coordinate missile development-related activities of the twelve ARDC centers in an effort to solve technical issues. Air Material Command gave the Ballistic Missile Office responsibility for providing procurement, production, supply, maintenance engineering, and transportation support to AFBMD.[35] The final member of this dynamic group was the Guided Missile Research Division of the Ramo-Wooldridge Corporation. This division consisted of top scientists and engineers responsible for systems engineering and providing technical direction to the sixteen other major contractors.[36]

The ability to coordinate across organizational lines, the close relationship with contractors, and General Schriever's research and development philosophy all contributed to the cultural development of the AFBMD. Members of this division could work freely with other research centers and valued the close working relationship with their contract partners. Their primary artifact was also their product, the successful development and acquisition of the Atlas missile. A reputation for getting things done and collaborating across agency lines came to be the underlying assumption in the future acquisition arm of Space Command, unlike the developing operational segment of the space mission area.

"Operationalizing and Normalizing" Space

The Air Force began integrating space as a mission area in 1970-71 by creating the space operations career field, designated by the officer Air Force Specialty Code (AFSC) 20XX. New officers and crossovers from other Air Force career fields formed the initial cadre for this new and very small career field. Many of the cross flows came

from the Air Defense Control field, but other career fields, such as engineering and intelligence, also contributed members to this new cadre.

The culture began to take root within this community with the establishment of Space Command in 1982.[37] Space advocates had successfully lobbied that space missions were vital enough to be managed at the same level as other Air Force missions. Space Command formed to provide an operational focus for the use of space and to integrate space into the rest of the Air Force.[38]

The Air Force gave the new command responsibility for managing and operating space assets, consolidating planning efforts, defining Air Force requirements, advocating operational issues, and, most importantly, ensuring the close "interface between research and operational users."[39] The emphasis on bridging the gap between researchers and warfighters created an environment in the command that encouraged the transfer of systems from developers to operators as quickly as possible. To distinguish itself from the research and development-centered space culture, Space Command wanted to stress its operational focus and lessen its emphasis on technical expertise.[40]

The Air Force transferred warning systems, the associated operations units, and bases from SAC to Space Command in 1983.[41] This 20XX force already had the level of operations discipline that Space Command wanted to replicate throughout the command. The units came to Space Command with values and underlying assumptions developed in SAC and an understanding that the mission they performed was crucial to the survival of the United States. They were proud of the work they did, their history, and the culture they brought with them.[42]

The culture General Hartinger, Space Command's first commander, wanted to foster within Space Command was one focused on providing the full spectrum of space support to the warfighter. He told his command, "The technology will fall in line. We have to focus on the operational pull to go with the technological push to make space work for us."[43] General Hartinger saw the need to organize the mission conducted in and through space under one commander to operationalize it.

Air Force Space Command finally obtained control of all of the operational Air Force space systems and cultivated an "operations" mindset throughout the command in 1993. Command members believed they provided vital support to the warfighter by conducting missions in and through space as General Hartinger envisioned.

Conclusions

Three distinct cultures currently form Air Force Space Command. Leaders focusing their respective organizations on the importance of their specific missions nurtured these cultures. The culture in SMC is based on the original underlying assumption that technical expertise and relationships established with other research agencies and various contractors is what makes them successful. General Schriever initially used his own research and development philosophy to direct WDD in developing and acquiring the nation's first ICBM quickly, inexpensively, and in coordination with other Air Force agencies and contractors in the defense industry.

The missile community is one born in the history and heritage of SAC and the stoic discipline of the Cold War. Leaders, such as General LeMay, used national defense and the SAC shield to develop a culture that would not accept failure of any

kind. The cultural assumption was that without their disciplined, zero-defect operations, the United States would fall to the Soviet Union and communism, an unacceptable fate.

The final leg of this cultural trinity formed with the creation of the 20XX, operational space, career field. Under the leadership of General Hartinger, this cadre developed by focusing on operational level warfighters and bringing all space resources to “the fight” in support of joint military operations. The cultural assumption was that the developing space missions were important to the warfighter and focused the operators on filling a vital support role. As the command evolved, received new missions, and gained control of its acquisitions processes, it became evident to some that additional change was necessary.

Recommendations

The 2001 Report of the Commission to Assess United States National Security Space Management and Organization had a significant impact on the military profession, particularly Strategic Command and Air Force Space Command. The Commission’s report centered on the development and certification processes of space professionals and provided specific recommendations for Department of Defense stakeholders to implement in order to improve the nation’s overall space capabilities. This paper provides a strategy for developing mission-focused subcultures to help resolve this issue and increase the depth and breadth of experience desired in the space career field.

General Kehler, Commander Air Force Space Command, and his Numbered Air Force Commanders find themselves at a crucial point in the cultural development of Air Force Space Command. The current midlife crisis sparked by the 2001 Space Commission provides a unique opportunity to manage the course of cultural change

currently underway. One approach to shifting the culture, in the mission-focused direction envisioned by the Space Commission, is to deconstruct aspects of the current culture. The Air Force can begin forging a mission-focused culture for its space cadre by breaking up the current 13SX Air Force Specialty Code (AFSC), which encompasses all Space Operations officers, and creating three distinct AFSCs supported by specific mission sets. The implementation of this type of strategy requires the use of various embedding and reinforcing mechanisms to achieve success.[44]

Adhering to the current space and missile AFSC construct encourages the Air Force Personnel Center (AFPC) to treat all space operators as a single entity. The Air Force does not manage its pilots as a single group and, likewise, should not bin its space operators based solely on the operations medium. Flyers are sorted by their specialties (fighter, bomber, mobility, etc.), and this provides a mission focus to flight training and daily operations that builds and supports strong subcultures within the flying community. AFPC's management of space operators, by contrast, values general space expertise and does not reward specialization. Breaking the AFSC into three smaller groups allows a degree of specialization, as well as, provides a mission focus similar to that of Space Command's predecessor organizations, Strategic Air Command (SAC) and the Western Development Division (WDD).

The 2001 Space Commission noted that the space cadre could no longer rely on the technical education of new lieutenants, but should develop career tracks that provide commanders at all levels more expertise within their mission areas. Specifically, the report states:

> To achieve this, specific criteria should be developed for the selection, training, qualification and assignment of space personnel who will design,

develop, acquire and operate military space systems. Training programs need to be refined to provide the basis for qualifying space professionals to occupy specific positions in the space force.[45]

One method of managing space operators that would specifically address this shortfall is to divide operations into three tracks with new, mission-focused, AFSCs. The first track, with a notional AFSC of 13LX, would consist of launch operations, missile warning, and ICBM operations. The second track, AFSC 13TX, would consist of payload operations and satellite command and control. The final group, placed under the AFSC 13CX, would put all space control operations (space situational awareness and offensive/defensive space control) together as a mission set. Space and missile officers would enter the career field with one of these three AFSCs and progress through a variety of assignments within a specific mission area for their entire career (Figure 1) as embedding and reinforcing mechanisms for subculture development. The career management embedding mechanism would also use a similar construct to guide the development of the other officers, such as engineers, in the space cadre.

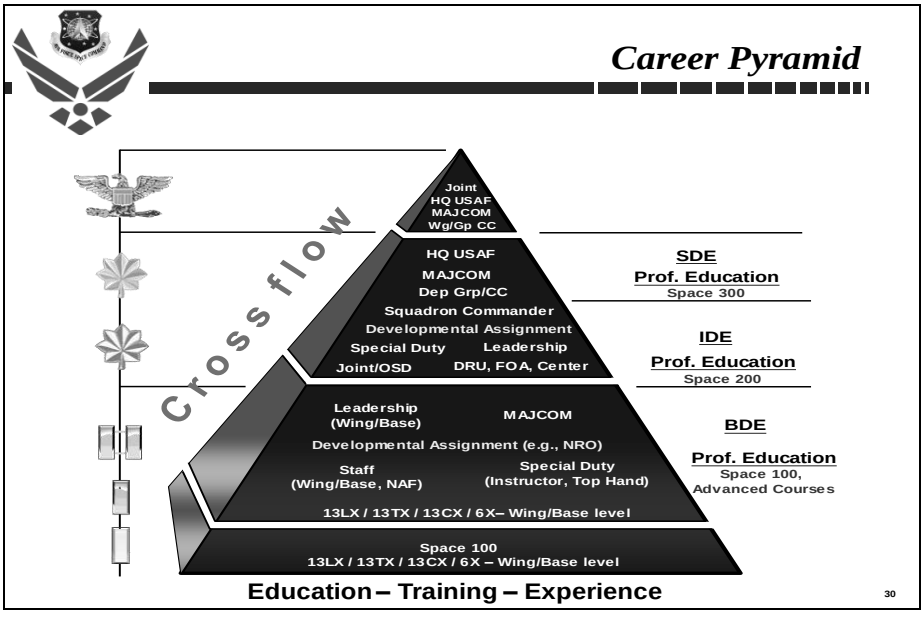

Figure 1: Space and Missile Career Pyramid.[46]

Ensuring Depth

Under this system, each mission area group would have enough company grade officer billets in order for Space Command to mandate consecutive operational assignments.[47] For example, a 13LX officer could complete a four-year tour of missile duty and then move to a missile warning unit for additional operations experience in a related space system. This would provide the officer with 7 to 8 years of operational experience within a single mission area (depth), while also exposing the individual to the breadth of the integrated tactical warning and assessment (ITWAA) mission and systems. Headquarters staffs could also leverage the depth of experience this construct cultivates.

With the additional mission area experience and development, this 13LX officer would then be better prepared to handle ITWAA issues at the MAJCOM or Combatant Command-level. During these back-to-back operational assignments, the operator could attend advanced training courses offered by the National Security Space Institute to raise technical proficiency. This construct also allows officers to develop mission expertise before attending the USAF Weapons School. Upon graduating from this program, they would return to their respective squadrons, or a related area, to increase their knowledge of the systems and forces conducting the same missions. Retaining cadre members within specific tracks until they reach field grade rank would cultivate space cadre members rather than merely document their experiences using a Space Experience Code (Figure 2). By controlling the assignments process, Space Command directly develops both its membership and its culture through incorporating a new

organizational structure, with corresponding systems and procedures as reinforcing mechanisms.[48]

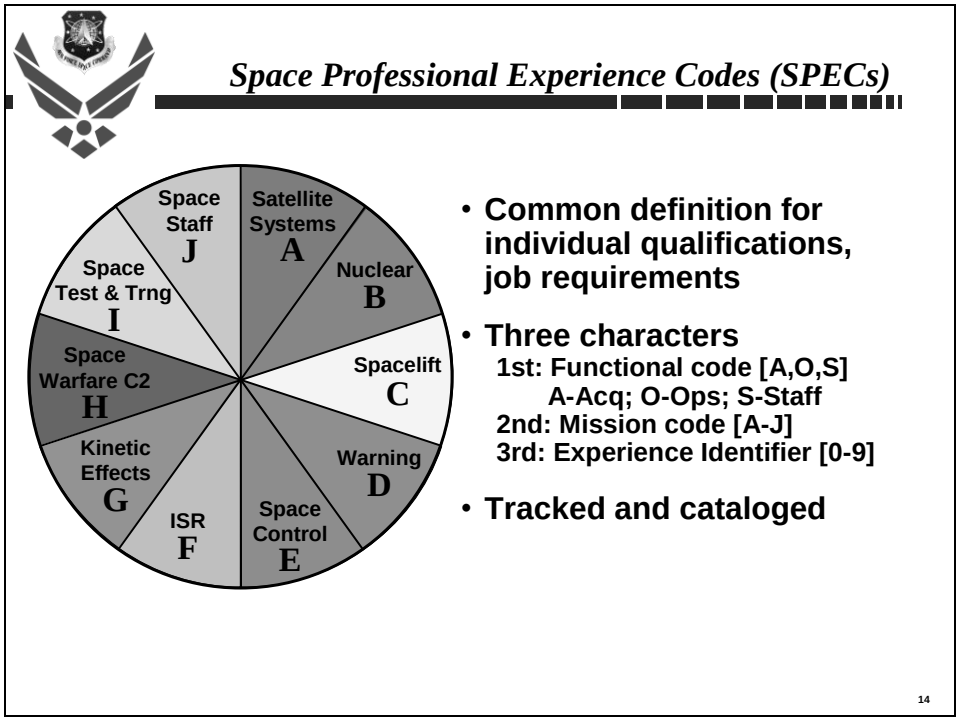

Figure 2: Space Professional Experience Codes (SPEC)[49]

Breadth that Counts

Three mission area tracks provide focused paths to guide the cross-flow of operators and acquirers and increase the breadth of experience within these career fields. An acquisitions officer assigned to the GPS system program office (SPO) would be encouraged to cross flow to the GPS squadron, or into units with 13TX AFSCs, as a broadening assignment. After completing an operations tour, the officer would return to the engineer community to continue acquiring space systems for the payload operations and satellite command and control mission areas. Likewise, a 13TX officer could take a broadening assignment acquiring systems or operating similar systems for the National Reconnaissance Office to leverage his/her previous operational expertise. This level of

visibility and control by strategic leaders continues to highlight the importance of the cultural changes demanded by the Space Commission and serve as lasting embedding mechanisms for the new construct.

Restricting broadening assignments for cadre members serves as an additional reinforcing mechanism and enhances members' mission focus over the course of their careers. Such limitations would also address an area the Space Commission noted as a weakness by developing leaders with expertise in specific mission areas.[50] Setting boundaries for Operational Experience and the Space and Acquisitions Exchange Program keeps cadre members working on issues that affect their particular mission area or weapon system in a manner similar to that used within the flying community.[51] As an example, AFPC would not send a career F-16 pilot to a program office to acquire a subsystem for the B-2.[52] Instead, if chosen for career broadening, an officer would most likely work on a program acquiring systems related to fighter aircraft. The Air Force should treat space operations in the same manner to strengthen the subcultures within its space cadre. Once space cadre members recognize that Space Command leaders value specialization within defined mission areas, AFPC should find it easier to get volunteers to accept these cross flow assignments.

The Role of Leadership

Space Command developed and published a Space Professional Strategy in response to some of the Space Commission's findings. While this strategy produced a solid foundation, based in common educational experiences, it is not engendering a mission focus to strengthen the culture of the space cadre. This approach focused on

technical education and established command-specific forms (Space Professional SURF) and processes to manage those identified as cadre members.

Space Command leaders introduced small and relatively insignificant changes, in the management of the cadre in an attempt to institutionalize certification levels along a specified career timeline. Space Command also established experience codes to track the development of the cadre, to further signify and reinforce to its members that the knowledge and experiences valued for career progression were shifting as the command moved through its cultural midlife growth stage. Space Command identified three career fields (Space Operations, Missile Operations, and Systems Acquisitions) in which cadre members could gain depth and breadth of experience. These career fields, however, are broad and do not focus enough on specific missions to build strong, coherent cultures as in SAC and WDD.

The Space Commission report states, “Leadership is a vital element in gaining mastery in any military area of endeavor” and directing organizational change is no exception.[53] AFSPC leaders need to adopt the recommended construct to provide a mission focus that fosters both breadth and depth of experience to propel the space cadre toward the next step of its cultural evolution. The three camps currently forming the space cadre developed unique subcultures that reflected the values articulated by strong leaders and identities centered on their original missions. The WDD heavily influenced the culture of Space Operations and Acquisitions while SAC influenced every aspect of the Air Force’s nuclear missile force. Current leaders have a similar opportunity as Air Force Space Command emerges from a Space Commission-imposed midlife crisis.

Cadre members must be rewarded with promotions and increased responsibilities to encourage them to accept and thrive under the new construct. The key to successfully implementing change, however, lies in the methods/mechanisms leaders use to market this incremental change to the space cadre. Commanders must openly state the importance of collectively exploiting the medium and place a great deal of value in all of the skill sets necessary to do so. These same commanders will need to articulate and enforce the new vision consistently.

Organizational culture does not start from scratch or come into being accidentally. People create organizations, and the leaders of those organizations create culture by articulating their assumptions. The final form of AFSPC's culture will reflect the initial vectors provided by Space Command's first commander, General Hartinger, subsequent commanders' adjustments to those vectors, the reactions of group members, and their shared historical experiences.

As an organization in the midlife cultural growth stage, a number of leaders have influenced AFSPC and moved the command through a series of related, but still diverse, cultural stages.[54] To effectively change the underlying assumptions of its subcultures, Space Command leaders must be willing to "unfreeze" the organization—to convince its members that the status quo is inadequate and old ways must be cast aside. If necessary, leaders can enlist the aid of outsiders, like the Space Commission, to convey this "unfreezing" message to its members.[55]

Leaders must also reassure members during the unfreezing process. AFSPC must have the emotional strength to absorb much of the anxiety that change brings with it, and its leaders must support its members through the transition phase, even if group

members become angry and obstructive. Generals Kehler and James may become targets of anger and criticism because, by definition, they will be challenging some of the basic assumptions that cadre members have taken for granted throughout their careers.[56]

To convince space cadre members to give up some of their closely-held basic assumptions, leaders must offer them new assumptions to replace or redefine the old. They will have to expose, review, and modify some of the basic assumptions held by the camps merging to form the cadre. A paradox of leading an organization through cultural change is that leaders have to listen as well as lead, help the group identify and resolve its own cultural dilemmas, and take a genuinely participative, rather than directing, role in the process.

AFSPC must create, manage, and eliminate portions of the established subcultures comprising the space cadre so that it can foster a new and stronger space culture overall based on mission-focused subcultures that can collectively ensure national security space objectives. The command will have to enact *real change* in the focus and mindset of its members to achieve this goal. The Space Professional Strategy, written in 2003, identified the initial steps along this long and arduous journey, and this paper offers a course update sensitive to the cultural implications of the emerging space cadre.

Endnotes

[1] Brendan P. Rivers, "USAF General Stresses Importance of Space," *Red Orbit News*, November 2004.

[2] Commission to Assess United States National Security Space Management and Organization Report, 42.

[3] Major General Roger Burg, USAF Ret, interview by the author, 24 September 2010.

[4] This thesis refers to the individual career fields that make up the Space Cadre: Missile Operations, Space Operations, and Acquisitions (6X AFSC) as camps to convey the separation of their daily operations and management systems. Tribes, groups, and stovepipes are also adjectives used by others to describe the distinctive nature of each career field.

[5] Lt Col Lawrence Lind (former Chief, Acquisition Officer Assignment Branch), interview by the author, 25 September 2010.

[6] Stephan J. Gerras, Leonard Wong, and Charles Allen, "Organizational Culture: Applying a Hybrid Model to the U.S. Army," U.S. Army War College, November 2008.

[7] Ibid.

[8] Edgar H. Schein, *Organizational Culture and Leadership: A Dynamic View*, (San Francisco, CA: Jossey-Bass Inc, 1985), 14.

[9] Ibid, 14.

[10] Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: Johns Hopkins University Press, 1989), 19.

[11] Schein, *Organizational Culture and Leadership*, 15.

[12] US Air Force Academy, "Air Force Core Values," http://www.usafa.af.mil/core-value/index.html (accessed on 14 February 2007).

[13] Gen Kevin Chilton, AFSPC/CC, media roundtable, 14 September 2006, Peterson AFB, CO. Roundtable transcript http://www.internationalmediacentre.com/pipermail/fpspace/2006-October/021045.html (accessed on 14 February 2007).

[14] Schein, *Organizational Culture and Leadership*, 18.

[15] Ibid, 18.

[16] Schein, *Organizational Culture and Leadership,* 246.

[17] Ibid.

[18] Ibid, xi.

[19]Ibid, 270-272.

[20] Schein, *Organizational Culture and Leadership*, 271-272.

[21] Nina Khruscheva, "The case of Khrushchev's shoe," *New Statesman*, 2 October 2000

[22] Transcript of the 1999 documentary, “Race for the Super Bomb.” http://www.pbs.org/wgbh/amex/bomb/filmmore/transcript/index.html (accessed on 15 February 2007).

[23] History, United States Strategic Command, 2003, 4.

[24] The Air Force shortened the SAC motto after an artist found there were too many words to paint on a sign that advertised a reenlistment campaign. 44th Missile Wing Commemorative Committee, *Aggressor Beware: A Brief History of the 44th Missile Wing, 1962-1994,* 33.

[25] Luther L. Stenvick, *The Agile Giant: A History of the Minuteman Production Board* (Seattle, Wash.: Boeing Company, 1966), 20.

[26] History, Space and Missile Systems Center, 2007, 1.

[27] Ernest G. Schwiebert, *A History of the U.S. Air Force Ballistic Missiles* (New York, N.Y.: F.A. Praeger, 1965), 79.

[28] Roy Neal, *Ace in the Hole* (Garden City, N.Y.: Doubleday & Company, 1962), 64-65.

[29] Lieutenant General Otto J. Glasser, interview by Lieutenant Colonel John J. Allen, typed transcript, 5 January 1984, 55. http://www.nps.gov/archive/mimi/history/srs/hrsn.htm#57 (accessed 20 February 2007).

[30] G. Harry Stine, *ICBM: The Making of the Weapon that Changed the World* (New York, N.Y.: Orion Books, 1991), 170.

[31] Schwiebert, *A History of the U.S. Air Force Ballistic Missiles*, 90.

[32] Major General Bernard Schriever, “ICBM-A Step Toward Space Conquest” (speech given in San Diego, California, February 1957).

[33] Ibid.

[34] History, Space and Missile Systems Center, 2007, 2.

[35] Schriever, “ICBM-A Step Toward Space Conquest.”

[36] Ibid.

[37] Spires, *Beyond Horizons,* 211.

[38] Ibid.

[39] Ibid.

[40] Brig Gen McLaughlin, interview by author 7 October 2010.

[41] Spires, *Beyond Horizons,* 211.

[42] Brig Gen McLaughlin, interview by author 7 Oct 2010.

[43] Quoted in speech by General Ralph E. Eberhart, Vice Chief of Staff, United States Air Force, "Aerospace Power for an Aerospace Nation"AFA Space Symposium (Los Angeles), November 13, 1998.

[44] Edgar H. Schein, *Organizational Culture and Leadership*, (Jossey-Bass, San Francisco, CA, 2010), 236.

[45] Report of the Commission to Assess United States National Security Space Management and Organization, Washington, D.C., January 11, 2001. 44.

[46] Space Professional Development Team, “Spread the Word Briefing,” briefing slides, July 2009.

[47] Maj Thomas Koory, former Non-Rated Operations/Space Assignments Team member, interview by author, 24 September 2010.

[48] Schein, 236.

[49] HQ AFSPC/A1FX , Air Force Space Professional Development Program Briefing, 2003.

[50] Space Commission Report, 43.

[51] Operational Experience and the Space and Acquisitions Exchange Programs are two career broadening programs used by The Air Force Personnel system to allow engineers and acquisitions professionals the opportunity to experience the operations side of the Air Force.

[52] Lt Col Lawrence Lind (former Chief, Acquisition Officer Assignment Branch), interview by the author, 25 September 2010.

[53] Space Commission Report, 44.

[54] Schein, 274.

[55] Ibid, 314.

[56] General Kehler is the current Commander of Air Force Space Command and Lieutenant General James is the current 14th Air Force Commander.